REMARKS/ARGUMENTS

I. Status of the Claims

Claims 1-10 have been canceled and replaced with new claims 11-20. Specifically, claim new claim 11 recites a recombinant adenovirus comprising a P972 gene and a promoter operably linked to the P972 gene, that is capable of infecting mammalian cells. Support for this claim can be found throughout the specification, *e.g.*, on page 7, lines 16-17. New claims 12 and 13 recite specific types of the recombinant adenovirus of claim 11. Support for these claims can be found on page 8, lines 5-9 and throughout the specification.

New claim14 recites a mammalian cell transformed with the adenovirus of claim 11. New claim 15 recites the mammalian cell of claim 14 ,wherein the cell is a human cell. New claims 16-18 recite a cell of claim 15 wherein the cell is a cancer cell, a human cancer cell, or a human cancer cell selected from a breast cancer cell, a colon cancer cell, or a cervical cancer cell. Support for claims 14-88 can be found throughout the specification, *e.g.*, from page 9, line 18 to page 10, line 4. New claim 19 recites a method for treating cancer in a mammal using the recombinant adenovirus of claim 11. New claim 20 has been added to recite a method for treating cancer in a mammal using the recombinant adenovirus of claim 2. Support claims 19 and 20 can be found throughout the specification, for example, in Example 7 (page 15, line 15 to page 16, line 6). Therefore, presently pending claims are claims 11-20. No new matter is added by these amendments.

II. Objections/Formal Matters

The specification has been amended pursuant to the Examiner's request for the inclusion of an abstract on a separate page. Support for the abstract is in the original title page as filed, which originally contained the abstract. No new matter is added by this amendment.

The Examiner has indicated in his communication of February 26, 2004 that the priority document has been located. Therefore, no additional copy is required.

The Examiner has objected to claims 1, 5, 6 and 7 as grammatically improper. Applicants hereby submit that the new claims overcome these formalities. Proper antecedent basis has been included in the new claims. Therefore, applicants respectfully request that the objection be withdrawn.

III. 35 U.S.C. § 112 Rejections

The Examiner has rejected claims 1-10 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner states that the terms "a promoter operably linked to the same" is a relative term in claims 1, 5, and 7.

Applicants have drafted new claim 11 to clearly identify that the promoter is operably linked to the P972 gene. The rejection of claims 2-10 have been rendered moot with the submission of the new claims.

IV. Prior Art Rejections

The Examiner indicates that the recitation of the phrase "for the treatment of cancer" in the preamble of the claim does not render the claimed vector patentable, if the vector is known in the prior art. Specifically, the Examiner has rejected claims 1-3 and 7-9 as being anticipated by Zhang et al., Int. J. Oncology. 2001; 18: 749-57). Specifically, the Examiner contends that Zhang teaches inserting a P972 cDNA into a mammalian expression vector, and transforming a cell line with the expression system. According to the Examiner, Zhang teaches expression of murine CR6 (P9720) in H1299 lung carcinoma cells in an inducible LacSwitch expression vector. The vector comprises an HA tag for detection (bridging paragraph, pages 751-2).

This rejection is respectfully traversed, and reconsideration is respectfully requested.

Applicant submit that the foreign priority papers are now of record. Since this article was published before filing of the international patent application, but after filing of the Korean priority application, this rejection is overcome by the filing of the priority application. Therefore, applicants respectfully request that this rejection be withdrawn.

The Examiner also rejects the claims as anticipated by Nakayama et al., J. Biol. Chem. 1999; 274: 24766-24772. The Examiner contends that Nakayama teaches a retrovirus carrying P972 cDNA and a transformed cell line comprising such a retrovirus. Nakayama teaches a retrovirus carrying P972 cDNA, in a vector comprising the green fluorescent protein gene as a tag, and in a

dexamethasone-inducible vector containing a FLAG tag. Nakayama also teaches cell lines transformed with these vectors (see page 24770, first and second paragraphs).

This rejection is respectfully traversed, and reconsideration is respectfully requested. As you know, in order for anticipation under 35 U.S.C. §102, a single prior art reference must teach each and every limitation of a claim.

Applicants submit that the presently amended claims call for a recombinant adenovirus containing a vector comprising P972 cDNA that is capable of infecting mammalian cells. The retroviruses of Nakayama are distinct from adenoviruses since retroviruses have RNA genomes and adenoviruses have DNA genomes. Nakayama does not disclose adenoviruses. Therefore, the amended claims have rendered this rejection moot. Applicants therefore respectfully request that the rejection be withdrawn.

The Examiner also rejected claims 1-10 as anticipated by U.S. Patent 6,027,914, to Smith et al. The Examiner contends that Smith teaches and claims a vector containing P972 and a host cell transformed with such vector. According to the Examiner, the Smith patent describes and claims human CR-6 (P972), vectors comprising human CR-6, and host cells transformed with such vectors (see claims 21-25). Mammalian vectors disclosed in Smith are listed at column 29, ll. 42-44. Smith also discloses derivatives of viruses that can be used for transient expression of proteins in eukaryotic cells (col. 29, ll. 49-52).

This rejection is respectfully traversed, and reconsideration is respectfully requested.

Applicants submit, as indicated above, that the amended claims call for a recombinant adenovirus containing a vector comprising P972 cDNA that is capable of infecting mammalian cells. Although Smith discloses viral vectors comprising P972 cDNA, Smith does not disclose adenoviruses capable for use in gene therapy by infecting mammalian cells. Therefore, the new claims have rendered this rejection moot. Applicants therefore respectfully request that the rejection be withdrawn.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

By _____

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